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10/574,012	03/29/2006	Hatsuhiko Harashina	2101-25	4345

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EXAMINER

DOLLINGER, MICHAEL M

ART UNIT

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1796

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/574,012

**Applicant(s)**

HARASHINA, HATSUHIKO

**Examiner**

MICHAEL DOLLINGER

**Art Unit**

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 September 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 4-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 4-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 6 is objected to because of the following informalities: the term "processing stabilizer" is listed as a member of the composition, however independent claim 1 already lists "processing stabilizers" as a member of the composition. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 and 4-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Harashina (WO01/05888, herein US 6,753,363 B1 is used as an English language equivalent).
4. Harashina discloses polyacetal resin compositions comprising polyacetal and a basic nitrogen containing compound [abstract]. The basic nitrogen containing compound is used in an amount of 0.1 to 20 parts by weight per 100 parts by weight of acetal resin [31:42-43]. The basic nitrogen containing compound may be a hydrazide including monocarboxylic acid hydrazides and polycarboxylic acid hydrazides derived from C<sub>2-40</sub> saturated aliphatic polycarboxylic acids [30:19-20], cyclohexane dicarboxylic acid [30:21-22], C<sub>8-16</sub> alicyclic polycarboxylic acids [30:23-24] and others. The resin

composition may also contain various additives including an antioxidant [3:1], a heat stabilizer [abstract; 31:54], and an additional polymer such as a silicone resin (which reads on a processing stabilizer) [35:35-36]. The antioxidant includes hindered phenols [32:20] and amine series compounds [32:52]. The heat stabilizer is chosen from a group of compounds including zeolite [36:5], hydrolactite [36:5], and alkaline or alkaline earth metal compounds [35:64-66] including salts of organic carboxylic acids [35:66], calcium 12-hydroxystearate [36:1], magnesium oxide and calcium oxide [36:1-2]. The composition may also contain other additives including a weather (light)-resistant stabilizer [35:38-39], impact resistance improvers [35:51-52], a slip agent [35:41], a colorant [35:36] and a filler [31:55]. The composition includes low molecular weight aromatic compounds including di- to tetrahydroxybenzophenones [11:4-5 and 12-14] which read on benzophenone weather (light)-stabilizers. The impact resistance improver includes core/shell polymers comprising polyurethane [35:51-54] and the composition may also include further thermoplastic polyurethane resins [8:35-36] that also read on impact resistance improvers. The composition is prepared by mixing the polyacetal resin, basic nitrogen containing compounds and the additives [36:43-48]. Harashina disclose shaped articles of the composition including automobile parts, electric/electronic parts, construction/piping parts, and daily needs parts [37:16-24].

5. Regarding claim 4, the disclosure of a dihydrazide of cyclohexandicarboxylic acid is the disclosure of a generic chemical formula. From this generic chemical formula, one of ordinary skill in the art would at once envisage dihydrazides of 1,2-cyclohexandicarboxylic acid, 1,3-cyclohexandicarboxylic acid, and 1,4-

cyclohexandicarboxylic acid. When the prior art discloses a generic chemical formula encompassing a specific claimed compound, the claimed compound is anticipated if one of ordinary skill in the art is able to "at once envisage" the specific compound from the generic formula, see MPEP § 2131.02 and *In re Petering*, 301 F.2d 676, 133 USPQ 275 (CCPA 1962).

6. Regarding claim 18, the emission of formaldehyde is an inherent property dependent on the types and amounts of components present. Since the prior art, discussed above discloses shaped articles prepared from a composition comprising the same constituents (polyacetal, hydrazide compounds as claimed in claim 1 and 4) in the same amounts (as claimed in claim 5). Thus the claimed formaldehyde emission is held to be inherently present in the disclosure of Harashina.

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1, 4-6 and 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mori et al (US 2003/0055143 A1) in view of Sheppard et al (US 6,518,339 B1).

9. Mori et al disclose fragrance emitting shaped articles comprising polyacetal [0013] and a formaldehyde scavenger [0054] in an amount of 0.001 to 5% by weight

[0056]. The formaldehyde scavenger is chosen from a group of compounds including adipic acid [0055]. The composition may also include heat stabilizers, antioxidants, plasticizers (which read on processing stabilizers), lubricants (which read on slip improving agents) and fillers [0057]. The shaped articles are prepared by mixing in an extruder or injection molding machine [0058]. The disclosed article is a slide fastener (zipper) [0063] which reads on a household utensil or cosmetic article part.

10. Mori et al do not disclose a formaldehyde scavenger that reads on the specific carboxylic acid hydrazides of claims 1, 4 and 16.

11. Sheppard et al disclose hydrazide compounds that eliminate or significantly reduce levels of aldehyde released from polypropylene products [3:10-15]. The specific hydrazides include adipic hydrazide [3:19] and eicosanedioic acid dihydrazide [3:20]. Henceforth, Sheppard et al teach that adipic dihydrazide and eicosanedioic acid dihydrazide are functional equivalents for the purpose of formaldehyde scavenging. It is *prima facie* obvious to substitute art-recognized functional equivalents known for the same purpose. See MPEP § 2144.06.

12. Regarding claim 18, the emission of formaldehyde is an inherent property dependent on the types and amounts of components present. Since the prior art, discussed above discloses shaped articles prepared from a composition comprising the same constituents (polyacetal, hydrazide compounds as claimed in claim 1 and 4) in the same amounts (as claimed in claim 5). Thus the claimed formaldehyde emission is held to be inherently present in the disclosure of Mori et al in view of Sheppard et al.

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL DOLLINGER whose telephone number is (571)270-5464. The examiner can normally be reached on Monday - Thursday 7:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Randy Gulakowski/  
Supervisory Patent Examiner, Art Unit 1796

MICHAEL DOLLINGER  
Examiner  
Art Unit 1796

/mmd/